# NEW GENESEE FARMER,

## AND GARDENER'S JOURNAL.

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☞ OBSERVE, as Mr. Bateham is likely to be absent from town some part of each month, he desires the contributors for this paper, whose articles do not need his particular inspection, to address their letters simply to the "*Editors of the New Genesee Farmer*," and those intended to be kept for his eye, to "*M. B. Bateham*," Rochester.

### Agricultural Implement Warehouse.

We wish to inform our friends and readers in the country that Messrs. B. F. SMITH & Co., the proprietors of the Rochester Seed Store, have fitted up a large room over their Store on Front Street as a depository for improved Agricultural and Horticultural Implements, and they invite farmers and others when visiting this city to call and examine the assortment of articles on hand. Many of the implements will be found entirely new in their construction, and others greatly superior to those in common use; calculated to facilitate the labors of the husbandman and render his occupation more pleasant and profitable.

Such an establishment has long been wanted in this region, and we hail it as an important auxiliary for promoting the improvement of Agriculture in Western New York. Let the friends of the cause give it their encouragement.

☞MR. CROSMAN, late proprietor of the Seed Store, will confine his attention to growing seeds for the establishment, and selling seeds in the country.

### Charcoal and Ammonia.

I clip the following from the March number of the New Genesee Farmer:

"Is 'D. L.' quite sure that the charcoal in a filtering cistern will absorb the ammonia to any perceptible extent? The only use that can be made of it there is, to stop the impurities contained in the water—not to absorb the ammonia; for if D. L. ever noticed it, the amount of ammonia contained in rain-water does not unfit it for culinary purposes, any more than the lime held in solution in hard water. "P."

Allow me to suggest, that the above is in bad taste. If "P." knew of any error in the remarks of your correspondent "D. L.," he should have pointed it out, or at least given *one reason* for so flat a contradiction.

But waving the discourtesy, how does "P." know that "The only use of charcoal in a filtering cistern is to stop the impurities contained in the water, not to absorb the ammonia?" Beside ammonia, and other analogous gasses contained in rain water, what "impurities" does it hold in solution when it falls from the clouds? And if the coal acts merely as a strainer, to "stop impurities" mechanically, how could matters held in perfect solution be arrested in their progress through such a filter? Unrectified whiskey holds volatile elements in solution—"impurities" which coal will separate by its chemical affinity, although such affinity is less than it has for ammonia. Speaking of wood coals, Professor Johnston, of Edinburgh, in the first volume of his valuable work on Agricultural Chemistry, says, "They have the power of absorbing, in *large quantity*, decayed animal matters held in solution in water: hence their use in filters, in purifying impure river, rain, and spring water. This action is so powerful, that port wine is rendered perfectly colorless, by filtering through well-prepared charcoal." He adds, in a note, that coal will absorb 95 times its bulk of ammonia, 55 times its bulk of sulphuretted hydrogen, &c. Will "P." tell us what sort of mechanical action that is, which enables one body to "stop" the further progress of a liquid, or moving gas, *ninety-five times its own bulk?*

Again, we are told, "If D. L. ever noticed it, the amount of ammonia contained in rain water does not unfit it for culinary purposes, any more than the lime held in solution in hard water." A great discovery, this! I had been silly enough to believe, that the experience of ages had induced all civilized nations to use well and spring water, "hard" as it might be, "for culinary purposes," rather than use rain water, containing as it does, before it is filtered, ammonia, sulphuretted hydrogen, and other deleterious gasses, that rise into the air from rotting vegetables, and millions of dead animals undergoing decomposition. I had supposed, that an infinitely wise and benevolent Creator had made the soil a vast filtering apparatus, for separating the organic matters held in solution in falling rains, that such organic ingredients might again become living plants and animals. A little of the ammonia thrown so profusely into the atmosphere from putrid animal matter might not, in warm weather, render rain water unfit to make tea for Mr. "P.;" but I submit to the reader, if the entire separation of this offensive animal matter, by the aid of a charcoal filter, would not be desirable, especially when coal thus saturated would become manure of great value.

In justice to himself, your correspondent "D. L." feels bound to say, that in early life he had the advantage of attending four full courses of lectures upon the science of chemistry, at one of the best institutions in the Union, and having been bred to the business of farming, he has spent much time, and some money, in trying a great variety of chemical and physiological experiments, in connection with practical husbandry and the arts. He has also studied much to keep up with all the wonderful improvements of the age in agriculture, and most of the arts that appertain to productive industry. Nevertheless, he has abundant cause to deplore his ignorance, and will be happy to learn from any one who wiill condescend to impart instruction in kind or courteous language.

I think I am not mistaken when I say, that a very large portion of the fertilizing elements of the liquid and solid secretions of animals is needlessly, and I am tempted to say heedlessly, lost in this State, by bad management. When I stated, in the January number of the Farmer, that twenty years' experience had taught me the great value of charcoal to absorb the fertilizing ingredients in urine and manure, I published a fact of considerable importance to the practical agriculturist. Let any one take an old barrel that will hold water, fill it with pounded coal, place it under his woodshed, and empty his chambers into it, until the coal is saturated with human urine. Not a particle of ammonia, or of any offensive gas, will escape till the coal is saturated. Then apply this substance in the quantity of a tea-cupfull to a hill of corn or potatoes; give some, also, to your growing wheat, and sow some with your seed, in putting in your spring wheat. Put the coal, saturated as above directed, in the hill with the corn, beans, or potatoes.

Dissolve one-fourth of a pound of sal. ammoniac, which will perhaps cost 6 cents, in two quarts of hot water, and when reduced to blood heat, put two quarts of seed corn into it to soak. Let it remain eighteen hours, then plant in a row by itself, after it has been rolled in plaster. (I have soaked some in urine with good effect.)

At a meeting of the friends of agricultural improvement in Albany, a few evenings since, the Mayor, Mr. Humphrey, stated, that by the application of a few drachms of the light shavings of horns from a conch factory to each hill of corn, planted on very poor sandy soil 3½ miles from this city, he had been able to harvest 60 bushels of sound shelled corn per acre. Where nothing was used, the crop was only about 15 bushels per acre. Horns contain more ammonia than almost any other known substance. Mr. Bement had tried refuse bristles, obtained from a brush factory, with results lasting three years, and alike beneficial.

Professor Emmons stated, that he had lately obtained a sensible quantity of ammonia from snow. He also said, that the precise difference in the quantity of ammonia which *dry* and *wet* charcoal will absorb is not definitely settled. Prof. E. is now engaged in the analysis of soils, in connection with the geological survey. D. L.

### More New-York Folly—Milk and Cream—Frye's Lactometer.

A writer in the New York Farmer and Mechanic has made a bungling attempt to answer the remarks in our December number, in which we showed up "Frye's Lactometer" in a light not very agreeable to some New York gentlemen. This answer purports to have been "read before the N. Y. Farmer's Club" connected with the American Institute; and from its tone and character it is pretty evident that the writer is none other than the reputed father of said Lactometer; for like that instrument it shows its author to be sadly wanting in scientific knowledge or else of common honesty. Our greatest wonder is, that the American Institute should allow its name to be used in giving currency to inventions and statements calculated to deceive the public and impose upon the agricultural community, and so obviously at varience with science and philosophy.

In the first place, the writer of the reply, misrepresents our main argument by stating that from the fact that cream is lighter than milk we "go on to argue that milk before the cream separates from it is lighter than it is after the separation has taken place." Now if he will read our article again, and understands the English language, he will see that we did not "go on to argue" that point at all, but we assumed it as a matter long since demonstrated, and established by the highest authorities that the world has produced. Indeed we do not believe that any man would attempt to maintain the opposite position at the present day, was it not found necessary to do so in order to promote private interests or escape deserved ridicule. It is not a mark of true learning for a man to set up his own opinion against those of the whole scientific world besides, especially on questions that admit of actual demonstration. We have examined some dozen or more of standard authors on chemistry, and all of them give their testimony in our favor on this question. Our opponent seems to have been aware of this circumstance, and therefore seeks to set them all aside, by a new set of experiments made to order for the purpose, "at the request of the American Institute," by John D. Ward of New York, who, in his report, calls the specific gravity of new milk 1.035; skimmed milk 1.033; cream 1.024. We leave the public to decide how much weight this statement is to receive, when contradicted by such authorities as Professor Silliman, Dr. Turner, Dr. Ure, Brande, Cooper, Berzelius, &c. &c. And even if it were admitted that Mr Ward's experiments and report are correct, it would by no means be sufficient to establish the utility of Frye's lactometer; for it will be seen that the difference between new and skimmed milk is only 2-1,000, which is two slight for detection by the instrument; or in other words *the lactometer will stand at the same point in skimmed milk that it will in new!* Consequently a vender might mix any quantity of real "blue" with his new milk, and this instrument would not afford the means of detecting the imposition.

The truth of the matter is, the specific gravity of milk depends on the quantity of sugar and salts that it contains, and not on the cream; and as these elements bear no certain proportion to each other, it is folly to pretend to judge of the essential *richness* of milk, which is its cream or butter, by an instrument based on the principle of specific gravity.—We have all along admitted that this lactometer may be of service in cities, for affording partially the means of detecting the mixture of simple water with new milk, and we are happy to learn that it has had a tendency to check this dishonest practice to some extent; but we protest against the recommendations of this instrument for the use of *farmers* in determining the quality of their cows and dairies. We repeat it, it is a perfect *humbug*, utterly useless for any such purposes, and consequently an imposition on the community.

Our New York writer says of us, "if he possesses some knowledge of chemistry he might stumble upon the reason

why new milk is heavier than skimmed milk." He then gives his theory of the matter in a manner which plainly shows that he is groping in the darkness of error, and "*stumbling*" upon his conclusions, instead of seeking them in the clear light of science and reason. Hear him:—

That a compound liquid should grow specifically lighter by the loss of its lightest parts, may at first sight appear somewhat strange—but it is nevertheless true in many cases besides that of new milk. That one which is most familiar and which science and experience have determined with more precision and certainty than any other, is the worts of the brewer in the common brewery, or the wash of the distiller in the manufacture of spirits from grain.

In these cases, the worts or wash have a specific gravity of from 1.078 to 1.117 before the process of fermentation commences. During the fermentation, a considerable amount of the solid portion of the malt, or grain which is held in suspension, rises and floats upon the surface of the liquid, (like cream upon the pan of milk;) a quantity of alcohol rises and goes off in the form of vapor, and a considerable quantity of carbonic acid gas is given out. Now the specific gravity of each of these three substances is less than that of the wort before fermentation, or after it; and yet the effect of parting with these three bodies, each lighter than itself, is an attenuation of the remaining liquid. The beer or the wash, after it is fermented, has a specific gravity of only 1.028 to 1.040. Many examples of this change of density might be adduced, but this one is sufficient.

The condition of milk newly drawn from the cow is in several respects analagous to that of the brewer's worts when first drawn from the marsh turn. The milk is called very properly by Ure, "an emulsion," and contains, among other matters, a portion of cream which separates spontaneously in the course of a few hours under favorable circumstances; but while it remains in the milk, it (in chemical language) *penetrates* the liquid; that is, it occupies the spaces between the particles of the other constituents of the "*emulsion*," so that it does not add to its volume, though it does to its weight. Water penetrates sand, and increases the weight without affecting the bulk of the mass operated upon. * * *

The true state of the matter, then, is, that the Lactometer, as made by Messrs. Frye and Shaw, indicates with certainty, when properly used, the quality of the milk which it is tried upon, and with sufficient accuracy to enable the dealers in and consumers of the article to know what they are buying and using.

It will not indicate the proportions of the different component parts of milk; to find those, another kind of apparatus is required—but it will indicate with certainty whether it be rich or poor in those matters which impart to it all its value as an article of food.

Let us now examine the foregoing and see who it is that '*stumbles*' upon his reasons. No man possessing any knowledge of chemistry would venture the assertion that there is any analogy between the change which takes place in milk during the seperation of the cream, and the fermentation of *brewer's worts*. Every school boy knows that in the latter case a *chemical change* takes place in the elementary particles of the compound. The solid parts of the grain or malt, consisting of sugar, gluten, mucilage, &c., held in solution, not "suspension," by the water and increasing its specific gravity, are decomposed or changed by the process termed *vinous fermentation*, the greater portion of the sugar and mucilage is converted into carbonic acid; part of which passes off in the form of gas, and part combines with water and forms alcohol, (most of which remains in the liquid and diminishes its specific gravity.) The substance which rises on the surface "like cream upon the pan of milk," is composed mainly of *gluten* which is very far from being, as stated above, "a considerable amount of the solid portion of the grain or malt."

But in the separation of cream from milk no one will pretend that any fermentation or chemical change takes place. It is simply a mechanical separation, which takes place "spontaneously under favorable circumstances" owing to the fact that the particles of cream are *larger and lighter* than those of the milk, as we shall see directly. The sugar, salts, &c. that give milk its specific gravity, remain in the liquid unchanged and undiminished after the cream has separated, clearly proving that no change like fermentation has taken place.

As to the assertion that the particles of cream "*penetrate* the milk, or occupy the spaces between its particles so as not to add to its volume but increase its weight," the idea is too absurd and ridiculous to merit serious refutation. A writer who will advance such a theory must be hard pressed for arguments or profoundly ignorant of his subject.—To make this matter plain, we will give an entract from a recent work, acknowledged by medical men as the highest standard authority, and embracing the results of all the modern discoveries and researches in chemistry and pharmacy, namely, ELEMENTS OF MATERIA MEDICA, BY JONATHAN PEREIRA, M.D., F.R.S., L.S., &c, London, 1842, and Philadelphia, 1843.

"Cows milk is an opaque white emulsive liquid, with a bland sweetish taste, a faint peculiar odour, and a specific gravity of about 1.030; the latter property is subject to considerable variation. When recently drawn from the animal it is slightly alkaline. Subjected to microscopical examination, it is observed to consist of myriads of *globular particles* floating in a *serous* (watery) liquid. Both DONNE, (*London Med. Gaz.* xxv. 302.) and SIR A. COOPER, (*On Anatomy of the Breast,*) have separated these globules *by infiltration:* the filtered liquor was transparant. The milk globules consist essentially of *butter*. Being specifically lighter than the liquor in which they are suspended, they readily separate by standing.—They therefore rise to the surface, carrying with them some *caseum*, (*or albumen,*) and retaining some *serum*, (*or whey*) thus forming what is called *cream*. Cream has a variable specific gravity; averaging about 1.0244. Skimmed milk has also a variable specific gravity; perhaps the average may be taken at 1.0348."

[Omitting the smallest fractions, the specific gravities, according to Dr. Pereira, would stand thus: New milk, 1.030: skimmed do. 1.035; cream, 1.024—agreeing in the main with other standards.]

In view of this testimony, (and no one will question *such* authority) what become of the assertions, we will not call them *arguments*, of our anonymous New Yorker? Here we have the specific gravity declared positively in our favor, and against Mr. Ward's American Institute report; and the doctrine of "*penetration*" is shown to be utterly preposterous. Instead of cream consisting of such infinitely small particles as to penetrate between the particles of the milk or water, it is found to consist of particles so large and *light* that they can be seen floating in the liquid, and can be filtered or strained out, leaving a transparent fluid!

If the American Institute and the N. Y. Farmer's Club, desire to sustain their respectability, and retain the confidence of the public, we would advise them to employ some competent person to examine matters of this kind that come before them, and save them from the reproach which must follow the propagation of such humbugs and errors.

An apology is due our readers for the space we have devoted to the subject—we are sure they will excuse us in view of the circumstances. B.

N. B. In our December article we committed a slight mistake in taking the specific gravity of cream, as given by Berzelius, for that of new milk. The error does not affect the principle, however; only the difference between the two kinds of milk is somewhat less than was there stated.

## New Articles of Culture.

Further extracts from our Essay on the Introduction of New Articles of Culture, continued from the March number of the Farmer, p. 19.

### RYE.

The culture of rye has somewhat diminished since the Temperance reform—at least, in parts of the country that are adapted to wheat and Indian corn. In other parts, however, it is still regarded as an important crop; and when its use, for pasturing sheep and *soiling* cattle, is better understood by farmers, it will be found deserving of more general attention.

The plaiting of rye straw, for the manufacture of Dunstable work, straw hats, &c., in imitation of Leghorn, has recently become an important branch of female industry in some parts of England; and, if rightly conducted, might afford profitable employment to thousands of willing hands now unemployed in this country. The mode of culture, for this purpose, and of preparing and plaiting, may be found in Loudon's Encyclopedia of Agriculture, (Art. *Rye.*)

*Common Winter Rye* has usually been considered the only species, or variety, of this plant worthy of cultivation; but one or two others have of late been brought into notice, and are deserving of attention.

*Spring Rye* has been cultivated in this country, to a limited extent, but is not generally known. It can hardly be considered a distinct variety, as any farmer can produce it by sowing the common kind so late in the fall that it will not come up before spring; the next year, sowing it during an open spell in winter; and the year following, in the spring. In this way most kinds of cereal plants may be materially changed in their habits with respect to the period of growth.

Spring Rye does not tiller as much, nor grow as tall, as Winter Rye; hence it should be sown thicker.

*Midsummer Rye.* This variety has not yet been introduced in this country; but, from the description given in Lawson's Manual, it promises to be a valuable acquisition. He says this variety differs materially from either of the foregoing, being considerably later in coming to maturity, and producing longer straw, much longer ears, and more root foliage. In France, and other parts where this variety is grown, it is often sown about the last of June, and fed down by sheep during the fall and winter months, affording great abundance of feed till April, when it is allowed to run to seed, and is said to produce a better crop of grain than when treated in the usual manner.

*Perrennial Rye.* Lawson also mentions, that seed of a perennial species of rye has recently been sent him from Petersburgh; which he sowed in April, and in December it showed no signs of going to seed. No further account of it has been seen by the writer.

*Multicole Rye.* Under this name there has lately been described, in the papers, a new and extraordinary variety of spring rye, which, *if the accounts are true*, greatly exceeds all others in productiveness and rapidity of growth. It should be borne in mind, however, that Yankees are not the only people that manifest a love of the marvelous; and that Johnny Bull is sometimes hoaxed by *humbugs*, as well as Brother Jonathan. The Cultivator of August last, says, this variety of rye is a native of Poland, and has been introduced into cultivation, with great success, in the south of France; then, quoting from the London Farmer's Magazine, says, "It grows on common soil suited to the old-fashioned rye, but its habits are totally different. By the report of above thirty respectable agriculturists, near L'Orient, who have cultivated it for the last two years, it does best when sown the first of June. Its growth is most rapid. Two crops of it are, before July, cut for hay, and by the 15th of August a grain crop is reaped. The straw is from 8 to 10 feet high, and the ear from 10 to 13 inches long. An account of this rye may be found in the 'Transactions' published by the French Minister of Agriculture," &c.

James Magoffin, Esq., of St. Stephen's Land-office, Alabama, states, in a letter to the "American Farmer," that he recently conversed with a gentleman from France, who informed him "that the foregoing account of the Multicole Rye is perfectly correct, and that its value to the farmer is truly great."

We should not be much surprised if it turned out that this variety is identical with the Midsummer Rye, before described, In that case, it may, indeed, be sown in June, cut for hay long before July, and a grain crop reaped in August: but we must add just *one year* to the period of growth—a small mistake for the Frenchman! This matter will soon be decided, however, for it appears that the seed has already been imported and distributed at Washington.

### BARLEY.

In Europe this crop ranks next in importance to wheat, but in this country it is less cultivated than rye; and the same cause that has diminished the demand for that grain, has materially affected this. Owing, however, to the rapidity with which it can be produced, and the variety of uses to which this grain may be applied, it will doubtless always remain an important product with many farmers. The aggregate product of barley in the United States, in 1839, according to the census, was 4,201,502 bushels; that of rye, 18,645,567.

Lawson enumerates 20 species and varieties of barley in his museum at Edinburgh. Loudon and Low describe 6 species, and mention, that numerous varieties and sub-varieties have been produced from them.

New varieties of barley are obtained by selection of seed and by crossing, in the same manner as wheat; and great improvements have been effected in this way. Only two kinds are commonly known or cultivated in the United States, the Two-Rowed; or Long-eared Barley, (*Hordeum distichon,*) and the Six-rowed, or Pomeranian Barley, (*H. hexastichon.*) Some other kinds have been introduced, and more doubtless might be, with advantage.

*Chevalier and Annat Barley.* These are improved varieties of the common Two-rowed, and have become very popular in England and Scotland, The Chevalier has been introduced, and cultivated to some extent. in this country. It can hardly be distinguished from the common Two-rowed, but is considered rather more productive; the heads are a

trifle longer, and the grain heavier, and thinner skinned. The Annat is described by Lawson as a newer and still better variety, ripening several days earlier, and the grain still heavier and finer. Seed of this variety was imported by the writer in 1839–40, and distributed to some person or persons whom he has failed to remember, and the result has never been made known to him.

*Flemish Barley.* Accounts have been published in the agricultural papers of England, and copied by some in this country, describing a variety of this name, as remarkably productive and fine, It is said to be two-rowed, and a winter variety. Several kinds of barley are sown in the fall or winter in England and Scotland; hence they are called *winter* barley. It is not probable that they would endure the winters of this climate; but they would, no doubt, all become spring varieties in this country, on being sown a few times early in the spring.

*Naked Barley—Siberian, Peruvian, &c.* There are two species of naked or skinless barley cultivated, to a limited extent, in this country, and under a variety of names. Neither of them appears to be really worthy of cultivation, though we almost every year see them noticed as "new and wonderful species of grain," of great value to the farming community, and, of course, for sale by somebody at a good round price. This grain does not differ from common barley in growth, but, when ripe, it thrashes out of the palese, or husk, like wheat; for this reason, in this country, it is sometimes called Siberian Wheat, Nepaul Wheat, Pearl Wheat, &c. The grain is very heavy, weighing 65 lbs. per bushel, and is valuble for feeding stock, but not good for malting, nor for flour. One species of naked barly is six-rowed, the other two-rowed. The former is said to be the earlier, more hardy, and productive; but the latter is larger and finer grain. A farmer in Wisconsin raised a large crop of the two-rowed, in 1842, and sold it for seed, under the name of Pearl Barley, described in the Western papers as "a new and valuable grain, introduced by an emigrant from Russia; was sown on the 15th of May, and harvested in July, will yield, with proper cultivation, from 35 to 40 bushels per acre. A bushel of the grain weighs 69 lbs.; it makes fine bread, and is nearly equal to wheat." A sample of it was sent to the writer, who immediately recognized it as an old acquaintance, which he had seen tried, and abandoned, years before, both in England and this country. The crop is less certain, and more difficult to harvest, than common barley.

## OATS.

This is a crop of great magnitude and importance, in the United States, and one which affords opportunity for marked improvement in respect to kinds. More can perhaps be done, however, with care and skill, at home, than by introducing new varieties from abroad. Few farmers seem to be aware, that this and all other kinds of grain crops are very liable to degenerate by careless and improper culture, and may be greatly improved by an opposite practice—and hence pay but indifferent regard to kind or quality of the seed they use. This is another of the great faults of American agriculture; and no crop is more affected by it than oats. So little care is exercised in relation to this crop, that it is almost impossible to determine what varieties are in common cultivation. They have become so mixed, and changed in appearance, that English or Scotch farmers can seldom designate them. There have been several of the most approved kinds repeatedly introduced from England and Scotland; and so long as they were kept pure, or not greatly deteriorated, they have been highly approved. The climate of this country, like that of France, has a tendency to cause oats to deteriorate; hence it is the more necessary to use care in the selection of seed, and to renew it, as frequently as possible, by importation.

*The Potato Oat* is perhaps better known in this country than any other foreign variety. It is sometimes called the Barley Oat. The grain is white, short, and very heavy; straw rather slender, liable to lodge, and the grain is rather apt to be shaken off by the winds, or in harvesting.

*The Hopetown Oat* is not so white as the preceding, nor so free from beard, or awns; but it is also very heavy, has stronger straw, with larger and more spreading heads, and is less liable to shed the grain. This is now regarded as one of the very best varieties in Scotland, especially on lands not of the best quality.

*White Tartarian Oat.* This variety seems to be well adapted to this climate. It is grown by a number of farmers in Western New York, and highly esteemed. The straw is very long, upright, and not apt to lodge; heads long, large, and inclined to one side; grain of a dull white color, and rather thick-skinned. This variety is a few days later than most others in ripening, but is highly productive, and a certain crop.

*Black Tartarian Oat.* This resembles the last only in the form of its heads, and their inclination to one side. The The straw is only medium length, grain black, shorter and more plump than the white variety, less awned, and earlier in ripening. Lawson says, the culture of this variety is extending in Scotland, and it answers best on high and rather inferior soils. The variety of black oats, commonly found in this country, is the old Black Oat of England, and inferior to this.

*Winter Oats.* Several late and hardy varieties are sown in the fall, in England and Scotland, and hence called Winter Oats; but it is not probable that this practice would succeed, or be of any advantage in this country. Winter varieties are produced in the same manner as winter varieties of barley.

*Skinless, or Naked Oat, (Avena nuda.)* This species excited considerable attention in this country a few years ago, and was disseminated extensively; but it is now generally abandoned. It is found to be a very uncertain crop, liable to smut and degenerate, and difficult to harvest. The grain threshes out clean from the hull, or chaff, like wheat.

GERARDE, in his old "Herball," printed in the time of "Queen Bess," (1597,) speaking of this species of oat, says, "Some of those good huswiues, that delight not to haue store of any thing but from hand to mouth, according to our English Prouerbe, may (whiles their pot doth seath,) go to the barne, and rub foorth with their hands sufficient for that present time, not willing to prouide for to-morrow, according as the Scripture speaketh, but let the next day bring with it."

Again, speaking of the "vertues of otes," he says, "Otemeale is good for to make a faire and well coloured maide to look like a cake of tallow,(!) especially if she take next to hir stomacke a good draught of strong vinegar after it."

## INDIAN CORN.

This king of vegetables, being a native of this country, and growing here in greater perfection than anywhere else, cannot be improved by importation from abroad. And, as farmers generally are more careful in the selection of seed of this grain than any other, it is not only preserved from degeneracy, but improved varieties are often produced. No plant better repays care and attention of this kind; and it may be presumed, that the limits of perfection have not yet been reached, either in the improvement of varieties or the method of cultivation.

*Egyptian, African, Mexican,* and other kinds of corn, or Maize, are often described in the newspapers, as something new and strange, recently discovered, and wonderfully productive; but none of them are really new, or deserving of culture, especially in the middle or eastern States.

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For the New Genesee Farmer.

## A Plea for Indian Corn—The Waste of Manures.

It strikes me, that the great mass of our farmers are, even in this day of light and knowledge, in more than Bœotian darkness in relation to the true use and action of manures.

How often we hear a farmer exclaim, "I would not have stable manure as a gift: it only fills the land full of weeds, and makes the wheat grow too rank." Yet this same farmer always waits for the weeds to admonish him to hoe his corn. If farmers would work among their corn early, without reference to the weeds, no weeds could grow to choke the early plant; then the open surface would, by its attractive power, draw the ammonia from the atmosphere, which would force the growing crop—thus enabling it to withstand both the early wet and cold of May, and the droughts of July and August.

Nine farmers out of ten, who complain of corn as an unprofitable crop, will acknowledge, that after planting they suffered the early plant to starve in the baked surface, until the weeds had completely paralized the crop, by strangling the tender plant almost in its incipiency. A long, moist, warm season, can alone repair the backwardness caused by this early neglect; and as our seasons are not invariably moist and warm, the failure or diminution of crop is charged to account of the season. Thus the credit of Indian corn, as a profitable crop, is sacrificed at the shrine of bad farming.

In traveling through the south part of Seneca county, just before the last wheat harvest, I was struck by the large heaps of green pigeon-weed, that had been pulled from the wheat fields and thrown into the road. Such was the superstitious dread of the farmer, of the propagating power of this weed, that he dared not consign it to his barn-yard, where its fertilizing decomposition would have made it the food for his hungry crops.

When we see the great waste, the wrong application of manure, and the almost entire neglect to make or even to save it; when we reflect upon this outrage upon "nature and her charities," we can only admire the bounty of that Providence which has given to Western New York a soil of such exhaustless power, that man, with all his wrong-headed blunders and absurdities, his native Vandal destructiveness, cannot make it desolate. S. W.

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## Increased Home Demand for Agricultural Productions, with a Diminution of the Supply.

Within the last month, such has been the increased demand of the home market for the products of the farmer, that wheat has advanced on the Seneca Outlet to 94 cents the bushel, corn to 50 cents, and oats to 25 cents. This rise is not warranted by a correspondent rise in the New York market, hence it is to be attributed to the decreased production at home, with the home demand increased.

Twenty years ago it was computed that the average yield of the wheat crop was 20 bushels to the acre; whereas, at the present time, the general average yield is not over 10 bushels to the acre. A correspondent decrease in the crop of clover-seed seems of late to have been realized. The crop of Indian corn has not decreased in proportion, for the sole reason, that the culture of Indian corn has always been neglected.

Many of our most intelligent farmers, justly alarmed at the continued diminution of the wheat crop, begin to cast about them for that desideratum which, in the shape of charcoal or lime, or a compound of vegetables and minerals, is to bring back the original fertility and productiveness of their fallow lands.

I premise, there is no county in the State of New York which has so large a portion of fertile arable surface, with so many ingredients to perpetuate the fertility of that surface, as Seneca county; and yet, thus far, the everlasting shell-marl of its marshes remains undisturbed, and the immense beds of gypsum remain uncovered, on the bank of canal and river navigation, sighing for the want of use.

S. W.

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## A Bundle of Scraps.

1. CHURNING IN WINTER.

Some weeks ago, we had churned not less than an hour or two, without any appearance of the butter coming, when 3 or 4 table spoonfuls of a strong solution of *sal æratus* was diluted with a pint of warm water and slowly poured in, while the dasher was kept moving to mix it with the cream. In less than a minute after this process began, the butter came.

2. VALUE OF APPLES.

In the course of my journeyings in the present winter, I have observed in various parts of the country, frozen apples hanging on the trees,—not such as chance to escape the eye of the gatherer, but enough to bend the branches, showing that no gatherer had been there. Now this has satisfied me that the value of apples for live stock, is not yet as fully known as it ought to be; and I therefore repeat it to such as are willing to listen, *that a bushel of apples is worth more for winter food than a bushel of potatoes.* This is evident from the fact, after having been fed on apples, shotes must be in some measure starved, before they will feed well on potatoes, often leaving a large part of their mess untouched; and losing flesh in consequence of the change. Besides we feed our hogs in autumn, chiefly on *raw* apples, never boiling any; and they fatten on them remarkably, which they never do on *raw* potatoes.

I would therefore advise not to leave apples on the trees to feed the crows; but to gather them for immediate or future use, so as to save corn and potatoes. No other food of so good a quality, can be provided so cheaply and so easily as apples.

3. PEACH BLOSSOM BUDS.

The flower buds of the peach and apricot are so admirably fitted to receive the cold; that the winters of this climate,

eaves them uninjured, unless the sap flows in to render them more susceptible; and finding them much swelled early in the winter, I was apprehensive that the severe weather that followed, would destroy them. A large proportion of them, however, are safe. Only a few—perhaps not more than a tenth—have turned brown in the heart.

Some years ago, I ascertained that *swelled* buds were not hurt when the mercury was rather below zero; but this winter, it was several degrees colder.

In regard to the injury from frost, much must depend on the weather that follows. If the warmth increases very slowly, and the change takes place in the night, or under a thick canopy of clouds, the damage may be slight or insensible; but not so, if the sun should shine out with power.

4. BEST TIME FOR CUTTING TIMBER.

A heavy snow fell in the autumn of 1836, before the trees had shed their leaves; and by overloading the branches, broke them down, till the woods resembled a new clearing just *underbrushed*. Well, many of these limbs (beech, maple, ash and elm,) yet remain on the ground, part buried in old leaves, and excepting the twigs, are apparently as sound as if they had been kept during the whole seven years in a dry place.

It appears to be well ascertained that timber cut when the sap flows freely, is much more disposed to decay; but the time of that fluid's rising differs much in different sorts of trees. Thus the sweet birch only *runs* late in the spring, after the sugar maple has ceased; but the latter *runs* in autumn as soon as the leaves have fallen. Maple timber to be most durable, ought therefore, to be cut when it is in full foliage. Even the vine itself ceases to flow as soon as the leaves are expanded.

5. MIGRATION OF BIRDS.

The preceding night a S. S. E. wind set in: and on the morning of the 9th inst., the *song sparrow* was first heard in our land. There can be no reasonable doubt of his having come *with* that gale; and I have not known them to arrive *on* any other wind in twelve years,—during which period I have continued my observations, yet some of our most eminent ornithologists believe they always migrate *against* the wind. D. T.

*Greatfield, Cayuga co., 3 mo. 12, 1844.*

## The Markets.

ENGLAND.—LIVERPOOL, MARCH 4.—The provision market during the month has presented no new feature of moment. There has, on the whole, been a steady business. The import of beef is again of an extensive character, baffling all previous calculations as to the supply to be expected. The effect is shown by the dealers purchasing merely for present wants. Our purchaser could buy on much more favorable terms. A small parcel of pork has arrived from New York, which will meet a ready sale ex ship. The price of hams having been reduced, an increased business is the result. The import of cheese has been light, and the stock is much reduced; prices for fine sorts are well supported, the middling and low qualities have improved in value, and the prospects for the next arrivals are encouraging. The lard market closes firmer.

NEW YORK, SATURDAY, MARCH 23.—Flour has been firm during the week at $5 for Genesee and Ohio, of prime quality—sales limited. Wheat, nothing doing. Rye, 67 to 68 cts. Corn, 48 to 50. Oats, 32 to 33. PORK—sales dull, and prices nominal: prime, 7 25; mess, 9, 62½; 120 brls. clear sold at 11 25. BEEF is in better demand; prime, $4; mess, $6 to 6 50. SEEDS—clover, 10 to 10½ cts. per lb.; timothy, $14 to $15 per tce. Nothing doing in Flax.

CINCINNATI, MAR. 16.—Pork, mess, 7 87 to $8 per brl. Bacon—sides, 4 cts. lb.; hams, 4½ to 5; shoulders, 2½ to 3. Flour, 3 80 to 3 83 brl. Wheat, 75 cts.; Corn, 25 to 28 cts.; Oats, 22 to 25 cts.; Hay, $7 to $8 50 per ton.

ROCHESTER, MAR. 27.—The roads are so very bad, that nothing of consequence is doing in the produce market, and prices for the spring trade are not yet established. There is a brisk demand for fresh butter and eggs, also for corn and potatoes, owing to the limited supply, for retailing.

### ROCHESTER PRODUCE MARKET.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Wheat, | $ 90 | a 94 | Hay, ton, | $6 00 | 7 00 | Eggs, doz. | 8 | 10 |
| Corn, | 47 | a 50 | Wood,cord, | 2 00 | 2 50 | Tallow, lb. | 7 | |
| Barley, | 40 | 42 | Salt, bbl., | 1 | 31 | Beeswax, | 25 | |
| Oats, | 23 | 25 | Hams, lb., | | 6 | Wool, | 25 | 35 |
| Flour,(ret.) | 4 | 50 | Pork, bbl. | 10 | 00 | Sheep Skins, | 1 | 25 |
| Beans, | 75 | 1 00 | " cwt. | 3 75 | 4 00 | Green H'ds, lb. | 3 | 4 |
| Apples, | 25 | 38 | Beef, " | 2 50 | 3 00 | Dry Hides, | 5 | 6 |
| Potatoes, | | 31 | Lard, lb., | | 6 | Calf skins, gr'n. | 5 | 6 |
| Cloverseed, | 6 00 | 6 50 | Butter, | 14 | 16 | do. dry, | 12½ | |
| Timothy, | 1 50 | 1 75 | Cheese,cwt. | 4 00 | 5 00 | MAR. 28. | | |


### SOWING FLAX SEED.

I Will furnish FLAX SEED to Farmers wishing to sow this spring, and contract to take their crop of Seed in the fall, at my Oil-mill, in the rear of C. Hendrix's Hardware Store, Buffalo-street, Rochester.

M. F. REYNOLDS.

☞ Linseed Oil and Oil-cake Meal constantly on hand.

SWEET CORN.—A supply just received, for seed, at the Rochester Seed Store. B. F. SMITH & CO.

EARLY POTATOES.—Twenty Bushels Ash-leaf Kidney Potatoes, for early planting, for sale at the Rochester Seed Store, No. 4, Front-street. B. F. SMITH & CO.

CLOVER AND GRASS SEEDS.—For sale at the Rochester Seed Store, Clover, Timothy, Garden and Flower Seeds, Marrowfat and Field Peas, Spring Wheat, Flax Seed, Buckwheat, Millet and Hemp Seed; together with the usual varieties of Seeds kept in a Seed Store.



# New Genesee Farmer.

ROCHESTER, APRIL, 1844.


## To Readers and Correspondents.

We present our readers a number of articles of more than common interest this month, and we hope no farmer will lay this paper aside till he has read them through, notwithstanding they may appear somewhat lengthy. Dr. LEE's report to the Legislature we conceive to be the most important document that has been laid before that body or the people of this state in a long time. The article by Mr. MORRELL on sheep and wool, is written in his usual happy style, and contains information of the highest importance to American farmers at the present time. The article on the last page, although in the form of an advertisement, will be found of interest to all who have to do with the PLOW.

CROWDED OUT—to appear next month, a communication on sheep, from Vermont; several articles on the culture of corn; Portrait of "Dragoon;" List of Agricultural papers, of the South and West; Remarks on Mildew of Grapes, &c.

SPECIAL REQUEST.—We again request correspondents to send their favors early in the month. Communications from T. C. P., and one or two others, did not arrive till our pages were full.

J. J. T.—A friend inquires what has become of this correspondent. We presume he is up to the eyes in business, grafting young fruit trees, and selling off the extensive assortment now ready for sale at the Nursery of Smith & Thomas, Macedon. Whenever he finds leisure we shall doubtless hear from him.

THE DEAR LADIES, we are happy to find have not quite forgotten us, though we confess we have been rather neglectful of them of late. SARAH is a bit of a *rogue* as well as a wit. She is evidently inclined to *mischief* as well as fun. We may have to say, like the frogs in the fable, "this is sport to you but it may be death to us." Her communication will receive a *private* answer when we feel in the humour. "ANNETTE" our long lost friend, we are rejoiced to hear from her again. She wants to know whether we intend to resume our "rambling habits" the coming summer; and intimates that some of her neighbors need a little more stirring up in reference to *Gardens and Door Yards*. In answer we can only say, we do contemplate spending a few weeks among our friends in the country again, the coming season; but, as *bachelors' liberties* are somewhat restricted this year, we cannot tell what may occur to interrupt our plans. As to the improvement of Gardens and Door Yards, if fathers will not do that in order to make home attractive, we advise the daughters to accept the very first (good) offer they get, for leaving it and making a home of their own.

COLMAN'S 'TOUR,' was expected to be received at Boston by the steamer just now in; we had not heard from there when our paper went to press. It would have come last month, we have been informed, but for being delayed in order to publish an edition in England, at the request of his friends there.

## Acknowledgments.

To HON. H. L. ELLSWORTH, for a package of *Multicole* Rye, described on page 34 of this paper. We perceive he agrees with us in the opinion that it is probably the Midsummer Rye of Poland and France.

To P. L. SIMMONDS, London, for his kind letter of last month, and the publications he mentions having forwarded. The latter have not reached us—will he look to it?

To W. B. SEABROOK, Esq., of South Carolina, for a copy of his excellent work on the history and culture of Cotton, containing a vast amount of valuable statistics of the cotton trade, &c.

To EDITORS OF N. Y. TRIBUNE, for a copy of Sargeant's life of Henry Clay. This is for sale at Dewey's Literary Depot and Periodical Agency in this city.

This establishment of DEWEY'S we take this occasion to say is deserving the attention of our readers. Cheap publications being now the order of the day, they can be found at Dewey's in the greatest variety and abundance. Magazines and Periodicals are also furnished, at subscription prices free of postage—in the Arcade Hall.

☞ Are your fences all in good repair—loose rails laid up—low fences made higher—board fences well nailed—stone walls not tumbling?

## ONE HUNDRED BUSHELS OF CORN PER ACRE.

DIRECTIONS FOR MR. GARBUTT.

Several of our subscribers have expressed a desire that we should publish the directions given to Mr. Garbutt in reply to his challenge; accordingly we waive the objections which led us to prefer to omit giving them publicity till the result of the experiments might be known. It was our intention to have called on Mr. G. during the winter, but our engagements and the bad state of the roads have prevented.

We also intended to have given directions for the preparation of some compost manure for the purpose, last fall; but through inadvertance it was neglected till too late; and nothing was done except to give the land intended for the trial a moderate dressing of manure and one plowing.

*The kind of soil*, it is proper to remark, is a gravelly loam, rather inclining to clay, containing a good portion of calcareous matter, and beds of gypsum are found on the premises. Of course therefore, it is naturally well adapted for wheat, but not for Indian corn. Then the system of tillage for thirty or forty years has been with almost sole reference to producing wheat; and during that whole period probably not one twentieth part of the amount of the produce has been returned to the soil in the form of manure. By the frequent use of clover and plaster fair crops of wheat continue to be produced, but it is very evident that the soil has become worn, and exhausted of those elements that constitute real fertility, and are especially requisite for producing large crops of Indian corn. We are informed that from 40 to 50 bushels per acre is considered a good average yield of this crop, with ordinary manuring and what is called good tillage. It will not reasonably be expected therefore that this land can be made to produce 100 bushels per acre, or more than double the ordinary yield, without extraordinary manuring and tillage; and as we understood Mr. Garbutt's offer to be based on our devising a *profitable* mode of culture, we must here say a word or two on that point.

To obtain *double* the usual amount of product, we have of course a right to require *double* the usual amount of labor and materials to be expended; there will then be a nett profit equal to the rent of the land. Were the soil in what we deem first rate condition we would consent to be limited by this rule, but as there must be much labor and manure expended that will be of lasting advantage to the land, we claim a right to require about *three times* as much labor and materials as have heretofore usually been applied to this crop. We are sure that any intelligent farmer will admit that more than one third of the benefits will remain for succeeding crops.

*Manuring and Plowing, &c.* We understand that the land was moderately manured and once plowed in the fall. We now direct that as soon as it becomes dry enough to work it should be harrowed smooth, then receive a dressing of about twenty loads per acre of such of the following materials as can be obtained.—1. refuse matter from the slaughter house, tannery and cloth dressing establishment, including any kinds of animal substances as bits of skin, bone, horn, hair, wool, &c.: 2. Chip manure or decomposed vegetable matter from the wood-house and kitchen yard, and where soapsuds and the like have been thrown: 3. good black muck from the woods or swamp, where it has been exposed to the air and frosts: 4. Manure from the hen house and hog-pen. We believe that nearly or quite all of these can be found within two or three miles, in sufficient quantity for manuring two or three acres at least—which is all that is required for our experiment. Let these be mixed as intimately as possible, (when spreading or previously,) and spread as evenly as may be, then give the ground a thorough *double plowing*, by having one plow follow in the same furrow after the other, so as to turn up or loosen as much as possible of the subsoil, say to the depth of 10 or 12 inches. The second plow will require a double team. A boy should follow it with a hoe or fork to brush the manure into the furrow, from the edge of the land adjoining, so as to bury it as deep as possible.

This deep plowing and manuring will be found of immense advantage in protecting crops from injury in time of drought, or excessive rains. The benefits of it will extend to many succeeding crops, so that only a small portion of the labor must be charged to this experiment.

*Second Spring Plowing.* Just before planting time, when the ground is sufficiently dry so as not to clog, smooth it with the harrow, then haul on another dressing of manure and compost, about twenty loads to the acre—say one-

half good decomposed stable manure, and one-half black vegetable muck, or chip manure before mentioned. With the muck to be applied to one acre of the land, mix one barrel of common salt, or its equivalent of old brine—the cost is trifling and it will be sure to benefit succeeding crops if not this. (We should like to have several other kinds of chemical manures tried, for the sake of experiment, but we are aware that Mr. Garbutt is not fond of such experimenting.) Mix the manure as intimately, and spread as evenly as may be; then plow the land the usual depth, commencing in the middle of the lands and working outwards, so as not to tread the plowed ground in turning the team. It is now ready for planting. (We are obliged to omit the directions for preparing seed, planting and after culture, till next month, owing to want of space.)

## Meteorological Diary,

KEPT AT THE ROCHESTER COLLEGIATE INSTITUTE, BY L. WETHEREELL.

Feb. 26.—A little rain.
27.—Snow in the morning; cloudy P.M.
29.—Rainy day.

The month was very mild; the mean temperature 28.61 deg.; ditto, corresponding month of last year, 18.11 deg.; —more than 10 dagrees lower than this year.
Rain-gauge for Feb., .37 inch.
*Ditto*, for Feb. 1843, 1.62 "

March 1.—Rain.
2.—Rain and Snow.
3.—Very pleasant morning.
4.—Ground White with snow.
5.—Pleasant day.
6.—Solar halo: river high.
7.—Very fine day.
8.—A little rain; very muddy.
9.—Rainy this morning; maple in bloom.
10.—Very pleasant day.
11.—Robin first heard, and skunk cabbage and alder in bloom.
12.—Rainy; commenced gardening.
13.—Rainy.
20.—About 6 inches of snow fell to-day.
21.—Sleighing.
24.—Pleasant.
25.—Cloudy, wind southerly.

The month, thus far, has been mild and cloudy; rain and snow frequent, but the quantity small. Rain-guage, .56 inch.

EARLY RACE-HORSE PEAS.—Ten Bushels just received at the Rochester Seed Store. They are represented as being earlier than the Warwick. B. F. SMITH & CO.

LUCERNE, or FRENCH CLOVER.—A supply just received and for sale at the Rochester Seed Store, No. 4, Front-street. B. F. SMITH & CO.

CHOICE varieties of FRUIT TREES, from the Nursery of H. N. Langworthy, Esq., for sale at the Rochester Seed Store, No. 4, Front-street. B. F. SMITH & Co.

LARGE CLOVER SEED.—Thirty Bushels Clover Seed, raised by Morton Pomeroy, of Ontario County, and warranted to be a genuine *large kind*, for sale at the Rochester Seed Store, No. 4, Front-street, next door to the arch. B. F. SMIMH & CO.

GREAT REDUCTION IN THE PRICE OF PLOWS.

THE Subscriber offers the following, embracing every variety of Plow necessary to do the best work in the soil of Western New York:

| | |
|---|---|
| Monroe County Plow, | $5 00 |
| Lockling Plow, | 4 75 |
| Peekskill, (new pattern,) | 4 75 |
| Strouse (No. 3) Plough | 4 75 |
| Strouse (No. 2) " | 4 50 |
| Whiting's, (No. 3,) Plough, | 4 50 |
| Corn Plows, | 3 50 |
| Dirt Scrapers, wooded, | 3 75 |
| Plow Wheels, rigged, | 1 00 |

Plow Repairing cheaper than ever before done.
In offering the above Plows at the prices affixed, I do so for CASH ONLY, believing that the farming community would rather pay cash than two or three dollars more for credit on such articles. Farmers are requested to call and see the above Plows, and satisfy themselves that they are the best and cheapest in market.
A. J. LANGWORTHY,
*April 1st*, 1844. 154, State-street.

NEW CUSTOM MILL—Rochester.—We have now in operation in the Stone Mills known as the "*Shawmut Mills*," on Brown's Race, Three Run of Burr Stones, with all the necessary improved machinery for Smutting, Scouring and Bolting; forming one of the most complete Custom Mills in this country, and we are prepared to grind all kinds of Grain whenever the same shall be offered.
We are fully aware of the fact, that there is a very strong prejudice with the farmers against having their Grists ground in this city from the fear that their work cannot be done properly, and at the times, either from inability or from a wish of the miller to grind on his own account.
Our Water Power is a never failing one, and our water wheels are so well protected from the cold, that we are enabled to grind at all times, and Farmers can depend upon our Mill being strictly devoted to Custom Work, and that we pledge ourselves not to refuse grists at any time for the purpose of grinding on our own account. They can also depend upon having their Grists ground on the same day they are left. Buckwheat and Barley ground every day—for the scouring of which, we have a first rate machine.
N. B. Corn in the Ear, ground at all times—which kind of Feeder, is said by them who have made use of it, to be the most profitable of any now in use.
☞ Cash will at all times be paid for most kinds of Grain.
Flour, Corn Meal and Mill Feed, constantly for sale at the lowest market price. SMITH & ALLCOTT,
Rochester, March, 1844, 1yr. Shawmut Mills.

## The Curculio or Plum Weevil.

This destructive insect is the greatest enemy of the fruit grower in this country. Were it not for its ravages, our tables and markets would be supplied with an abundance of the choicest fruits of the orchard and garden, and cultivators would be richly paid for their labors instead of seeing their fond hopes annually blasted.

In our last year's volume, page 74, we gave a pretty full description of the Curculio, its natural history and habits, and some of the means for preventing its ravages. It is important that every fruit grower should be familiar with its appearance and habits, in order that he may be able to preserve his fruit, and assist if possible in exterminating the common enemy, or devising some means for curtailing its operations. We take pleasure therefore in laying before our readers the following excellent article on this subject, the most recent and complete that has appeared, and illustrated with engravings. We copy from the American Agriculturist, with slight abridgement and the omission of unimportant cuts.

The Curculio, (*Rhyncænus cerasi*—Peck,) its natural history, habits, character, and the best mode of preventing its destructive ravages; together with remarks on the cause of the disease known as the WartyExcrescence, and suggestions to prevent its appearance. In a letter to the Committee on Fruits of the Massachusetts Horticultural Society. By DR. JOEL BURNETT, Southborough, Mass.

This insect was called by Herbst, *Rhyncænus nenuphar*; by Peck, *Rhynchænus cerasi*; but commonly goes by the name of *curculio*, or plum-weevil, by horticulturists. "He is a little rough, dark-brown beetle, (Fig. 1,) has two small bunches or protuberances on his back, a rostrum or beak, on which are two antennæ.

1. Curculio in the perfect or beetle state, natural size.
2. The insect, when shook from the tree, assumes one of those forms, and keeps the feigned appearance a few moments, as though dead.

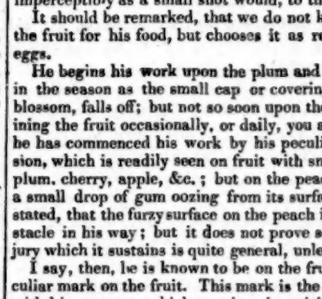
He is so shy, and retiring, and unobtrusive in his character, in his beetle stage, that he is not liable to be seen unless he is searched for purposely, and this is the reason why so little is known of him generally.

When you have discovered that he is operating upon the fruit, (which you may know by his peculiar mark upon it,) by assiduously watching, you may chance to see him cutting the incision with his rostrum, (Fig. 3.) If you extend your thumb and finger toward him, it must be done very cautiously and slily, or before you touch him he will drop, as imperceptibly as a small shot would, to the ground.

It should be remarked, that we do not know that he uses the fruit for his food, but chooses it as receptacles for his eggs.

He begins his work upon the plum and apricot, as soon in the season as the small cap or covering, formed by the blossom, falls off; but not so soon upon the peach. Examining the fruit occasionally, or daily, you are to know when he has commenced his work by his peculiar mark, or incision, which is readily seen on fruit with smooth skin, as the plum, cherry, apple, &c.; but on the peach it is known by a small drop of gum oozing from its surface. It has been stated, that the furzy surface on the peach is a barrier or obstacle in his way; but it does not prove so here, as the injury which it sustains is quite general, unless protected.

I say, then, he is known to be on the fruit tree by his peculiar mark on the fruit. This mark is the wound he makes with his rostrum, which consists in raising up the skin of the plum to a small extent, under which he deposits an egg. The shape or form of this egg is semi-lunar, or crescent-shape, and in the middle of this wound is a small discolored speck, where the egg is placed, (Figs. 3, 4.)



3. Curculio in the act of making the semi-lunar incision in the fruit, with its rostrum or beak, on the base of the plum, in the latter part of the season.
4. Small plum with the incision near the apex, as made in the early part of the season.

In the early part of the season, or during the mo. of June, his mark will be found near the apex, or point of the plum, (Fig. 4.)

But after the plum has reached a considerable size or frm. the 1st to the 20th of July, his mark will be found at the base, or near where the stem is inserted, (Fig. 3.)

This last-mentioned place the insect prefers, it would seem, from instinct, lest the plum, by its strong connection to the tree, should not fall soon enough to secure the welfare of the grub within it; for this vital connection is sooner disturbed by the worm than it would be if the egg had been deposited at the apex.

When the egg hatches, the larva sometimes, it is presumed, falls from the nidus or nest, and the fruit remains unharmed; but, most generally, in four or five days from the time the egg is laid, a small bluish line, near the skin, may be seen extending from his mark, which signifies that the grub is within. And also, when his mark has assumed a bluish tint, you may be certain that destruction will follow; for when you see these signs, take the plum from the tree, and cut off a small portion where the mark is, and you will notice that the larva has burrowed down into it.

The effect, upon the plum or other fruit, of the larva within, is to cause it to shrivel and decay, and after a while it falls. By the time the plum falls, the insect has nearly or quite completed his larva or grub stage, (Fig. 5) and then he leaves it and goes down a little way into the earth.

Here in the earth he undergoes his transformation, which is performed in about fifteen or twenty days, in the month of June, or fore part of July. But all the larvæ (so far as I have observed) that go into the earth about as late as the 20th of July, do not ascend that season, but

5. Larvæ of the Curculio, natural size, as found when the fruit falls.
6. Curculio in the pupa state, (magnified,) as found after it has entered the ground.

remain there in the pupa stage, (*fig.* 6,) until the next spring.

We are to observe, then, that there are two generations in one season, of these insects, and this fact it is important to know; for if the first generation in the larva and beetle stages is destroyed, we have little to fear from the second, which operates in July.

[*Remainder next month.*]

For the New Genesee Farmer.

## Saxon and Merino Wool, by L. A. Morrell—Important Letter from Mr. Lawrence.

Mr. EDITOR.—The disclaimer of our friend Randall, in your last number, of any intention in his first communication, to "attack the Saxons," was anticipated by me through a private letter from him, which was full of his accustomed humor and drollery. I must believe him, and have to accuse myself of an obliquity of vision, which prevented such a "straight-out" view of his meaning and motives, as he desired. I construed it, like many of my friends, as a design to "kick up a bit of a row," and in connexion introduce a controversy on the comparative merits of the Saxons and Merinos. Presuming this to be true, I accumulated a mass of materials with the full determination to "carry the war into Africa," which, however, will now be put up to *dry*, and used if occasion requires. On second thought, a word more. Few, if any, have labored with more assiduity in our agricultural papers, within the last few years, to effect a reform in sheep management, than myself: and in all that I have written I have not extolled the Saxons, nor disparaged the Merinos, or any other breeds. Could I have done so with propriety? Would it have been generous to those who chose to prefer the Merinos? No, and in addition, I entertain too exalted an opinion of the Merinos, *the great forefathers* of the Saxons, to have thus committed myself. But it is my opinion, and for many years I have entertained it, and am willing, like a true Knight, to "take up the glove" and manfully contend that the *pure* Saxons, if properly managed, are as profitable as the Merinos; *but not more so.*—This opinion has not been formed without proper data; it is the result of extensive inquiry and much personal observation. Hence, having as hardy and as sound a constitutioned flock of Saxons as the land can boast of, I have no desire to change them for Merinos, or any other variety.

The first point at issue between friend Randall and myself, is in reference to what Mr. Lawrence meant to be understood by "American Merino Wool." It will be seen by his letter appended, that I was wrong in my construction, and like a generous adversary, I cry, in the language o Hamlet—"a hit, a palpable hit."

On the second round, as to the question of "Saxons going out of repute," I think one of the Colonel's "peepers" has been closed—although he will not be disposed to admit it.

He appeals to me as to my knowledge of Saxon flocks in the county of Cortland. In reply to this, I can only say, that if all are like those which I have seen, the sooner they "go out of repute," the better; for like the boy who sketch-

ed the animal on his slate, and wrote underneath—*a bear*—it would be necessary to label the said flocks, *Saxons*, otherwise no one would be likely to recognize any connexion with that breed. They are but samples of what the country is full—miserable counterfeits, and made comparatively worthless, by culpable and disgraceful management. Hence, perhaps, the eagerness for the proprietors to change for something else—no matter what, for no change can bring any thing worse. But let me confidently assure such, that if with the change it is accompanied with no improvement in management, their cry will soon be—"we have tried these "*darkies in ruffled shirts*' (as a friend facetiously termed the Paulars) and we cant make them go; they are not what they have been "cracked up to be," and we must change again." Thus it is to the end of the chapter, and so will be to the end of time, with a certain class of farmers. These remarks are not designed for any special locality.

I have much in addition to the testimony of Mr. Lawrence, bearing on the second point at issue; but his is deemed of sufficient weight without any other, inasmuch as he is the purchaser and manufacturer of a million of pounds of wool annually; and withal, no man, probably, is more conversant than himself with the movements of wool growers generally; through personal interviews with hundreds every year from every quarter, and personal inspection of wool purchased in almost every district of the Union.

But it will be perceived that Mr. Lawrence has enlarged and liberal views on the subject of wool growing; he is desirous for an extension of Merino breeding. So say I, with all my heart. Let slip the Merinos upon the *miserable scrubs*, "bred by, and the property of no body in particular, the U. States over," and after that permit the paragon of Saxon to enter the list and give the *finishing touch*, and my word for it our flocks may bid defiance to all foreign competitors.

But *allons* to the letter, which conveys intelligence that will cause the heart of every farmer to throb with joy—which will be an abiding joy, a joy which will reach the pockets and pay twenty shillings on the pound, *if* we will only continue to consult *our own interests*, instead of the fallacies and split-hair metaphysics of corrupt and selfish demagogues. I have no liberty from Mr. Lawrence to publish his letter; the responsibility therefore will rest on myself.

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LOWELL, Feb. 24, 1844.

L. A. MORRELL, Esq.

*Dear Sir.*—Your esteemed favor of the 8th, covering some questions, was duly received; and I have now great pleasure in handing you replies.

You ask first—"What are we to understand by *American Merino wool?* I mean the descendants of Spanish sheep brought to this country at sundry times, but especially in 1802, by Gen. Humphrey, and in 1809 and '10 by the Hon. Wm. Jarvis, where there has been no cross with other breeds.

Query 2d, "What will full blood Paular wool, after washing on the back, waste by the manufacturer's cleansing?

The American Paular wool will shrink 40 to 45 per cent. I know a flock of Paular and Negretti selected in Spain by George Flower, Esq., and carried by him to the Prairies of Illinois, twenty-seven years ago, which yielded 60 lbs. to the 100, two years since. This wool now strongly resembles Saxon; the fleeces weighed 2¾ lbs. The flock had never been crossed with other blood.

Query 3d, "What price did Paular wool command in the market, in July last; and what is about the average weight per fleece in general?"

We paid for full blood Montarco wool, in July last, forty four cents; the fleeces averaged 3½ lbs., and lost by scouring 44 per cent; we bought no fleeces of full blood Paular.

Query 4th, "Have you any reason to suppose that Saxon sheep are going out of repute?"

I am well acquainted with a great many owners of Saxony flocks, and in no instance do I know that a change is contemplated; on the contrary every thing is doing to make the wool finer. I believe that by proper care in crossing, the length of staple may be increased without affecting the fineness. This is a desideratum of great importance to breeders, and should receive their serious consideration. A few years ago it was thought by manufacturers that very short stapled wool only would make fine goods. Now the quality of the staple is looked at without regard to its length.—I beg you to give this matter your best attention, for if 8 to 10 oz. of wool can be added to every fleece in the country it will place both growers of wool and manufacturers on such a basis that no foreign competition could touch them.

The Saxon sheep were carried from Spain and improved in Germany; Why can't the Merino be brought up to the same height in this country? We have stapled some American Merino wools of great beauty, and finer than any Spanish wools that ever were imported into this country. The best blood of Saxony sheep is in very high repute in Europe. It is but three years ago that six hundred dollars each were paid in Germany for a large number to be carried to Russia; I have specimens of the wool. Is there any reason why we cannot do as well by starting with the right blood?

As to encouragement to the wool grower, &c., in my opinion, *their prospects were never as good;* and among other reasons, are, first—a majority of the people are coming square up to the mark in favor of a "PROTECTIVE TARIFF," and the wool growers have learnt that *this kind of Tariff* is quite as useful to them with their three hundred millions of dollars in sheep farms, sheep, &c., as it is to the woollen manufacturers with their twenty millions in mills, machinery, water power, &c.

Secondly.—There is infinitely more skill employed in the working of wools, and more talent and character in the general management of the woollen business, than at any former p e

Thirdly.—A number of new branches have lately been undertaken with entire success. The making of *mouslin de laines* has been commenced under the most favorable auspices; and last and not the least, the horde of "drab gaitered gentry," from Yorkshire, who infested New York city for many years, has been broken up and drawn from our shores.

☞ *The advance in the prices of all kinds of wool will be sustained;* the aticle has been depressed below its value all over the world for three years past; but it has now turned, and a considerable advance has taken place in Europe, and the next German Fairs will show more animation in the demand than has been seen for a long time.

I have this moment heard the report of the death of our mutual friend H. D. Grove, of Rensselaer co., with whom I have long been on terms of intimacy, and the shock to my feelings is very great. I was sincerely attached to him—a more respectable and honorable man did not live; he was indeed an honor to his calling.

Your obedient servant,

SAMUEL LAWRENCE.

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Here I should have closed my communication, and bid adieu to the present controversy, but for the *figuring* of Col. Randall, a portion of which does me injustice. He states in his last that my wool lost by cleansing 37½ per cent, which, if he will refer to his first essay, will be seen is an error. Mr. Lawrence states that American Saxon wool looses from 33 to 37 per cent, and that my clip of last year shrunk 33¾—"*and the finest*"—which is an indefinite quantity, and which I happen to *know* was limited—37½ per cent. I will pledge myself that it did not average 35.

As to singling out individual sheep to denote what a whole flock will average, or to compare some 50 with a flock of 2000, when the fact is well known that small flocks are proportionally always more profitable than large ones, is not the fair thing. Merely to demonstrate this, I will state that, in the fall of '42, I sold to a neighbor 52 lambs, which he wintered on hay with a peck of oats per day, and after being well tagged and washed, they sheared over 3 lbs. of wool per head. This I can certify to, as I weighed it and received it in payment for the flock.

As to individual sheep, I have a Saxon buck whose two last fleeces together weighed 13 lbs., being now in his sixth year; and a number of ewes which overwent 5 lbs. each; but these do not tell the story for the whole flock.

With the exception of the two last clips, my sheep have averaged since 1835, 2 lbs. 11½ oz. per head; and the reason for the two last weighing lighter than the preceding ones, being anxious to make rapid strides in improvement, I sold to the amount of the increase principally from four and five year old ews, an age when the Saxons shear their heaviest fleeces and reserved nearly all the lambs; and therefore for two years past made almost three quarters of the flock to consist of, when shorn, yearlings, two year, and three year olds. The case will be somewhat different this year, and I shall be disappointed if the flock does not average 2¾ lbs. That's all. Your friend,

L. A. MORRELL.

*Lake Ridge, Tompkins county.*

## New York Legislature.

*Report of the Committe on Agriculture.*

IN ASSEMBLY, March 7, 1844.

Mr. D. LEE from the committee on agriculture, to whom was referred so much of the Governor's message as relates to agriculture, and also the annual report of the New York State Agricultural Society, embracing returns from forty-six county societies, has had those subjects under consideration, and respectfully submits the following

REPORT.

So far as your committee have been able to examine the manuscript essays and official reports made by the State and County Societies, they appear to be drawn in strict conformity to existing laws, and therefore your committee do not feel at liberty to alter or abridge them in any respect. Taken as a whole, these documents contain a large amount of information of great practical value to the farming interests of the State. The Treatise of Mr. Gaylord on insects injurious to Field Crops, &c., the Essay on the introduction of New Agricultural Products, and on the importance of the Geological Survey in its connexion with Practical Husbandry, &c., are worth many times the cost of publishing all the reports. Hitherto it has been customary to print ten times the usual number for the use of members of the Legislature and State Officers, 500 copies for the use of the State Agricultural Society, and twenty copies for each of the county Societies. Believing that these documents will compare favorably with any that have preceded them from the same source, and are well calculated to render the agricultural labor of this great State more productive to the community at large, as well as more profitable to the cultivators of the earth, your committee do not hesitate to recommend the printing of the number of copies above named.

In his late message, the Governor says: "The number of acres of land charged with taxes in 1842, was 27,176,934, valued at $504,254,629." According to the State census of 1825, the number of acres under cultivation was 7,160,967. The same authority in 1835, gives the number at 9,655,426. At this time the number of acres under cultivation, probably, does not vary much from 11,000,000. According to the U. S. census of 1840, the number of persons actually employed in rural pursuits, was 455,954; while the whole number actually engaged in manufactures, the mechanical arts, trade, internal coasting and foreign commerce, was 207,172. These brief statistics demonstrate the important truth that Agriculture is the great productive interest of the State of New York.

Your committee deem it not out of place to inquire whether the half million of laboring people, who cultivate eleven millions of acres of fair farming lands, do now realize as large a return for their capital and industry, as is practicable?

In the returns of the census of 1840, the wheat grown in this State, (12,286,418 bushels) was estimated at $1, 20 per bushel; corn (10,972,286 bushels,) at 75 cents; oats (20,675,847 bushels,) at 44 cents; and hay, (3,127,047, tons,) at $10 per ton. At these prices, which are now too high by one third, the aggregate products of all our rural industry were valued at $109,071,416 Reduce this gross sum to $77,000,000, as it ought to be, and divide that by 11,000,000, the number of acres in cultivation, and the average crop was worth only seven dollars per acre.

From considerable experience, much study and reflection, your committee are of the opinion that the 11,000,000 acres of cultivated lands in this State might be made to yield, without any additional expense, an average of three dollars per acre more of the valuable fruits of the earth, than they now do. In other words, the same labor, which is now measurably lost through ignorance of the laws of nature, through inattention to the constituent elements of all cultivated plants, and of the affinities that govern their chemical and organic combinations, in practical agriculture, might by the aid of plain and available science, secure to our farmers ten dollar's worth of agricultural products, where they now get but seven dollar's worth. For what purpose does the husbandman toil so hard throughout the year? Is it not to transform certain elements of earth, air and water, into cultivated plants; and these again into domestic animals, beef, pork, mutton, butter, cheese and wool? And what are these elements of earth, air and water, which the well or ill applied labor of the farmer changes into wheat and other grain, into grass and roots? Where is the practical agriculturist to find the raw material of one good ripe wheat plant; and how must the necessary ingredients be combined, and applied to the soil, so as to realize the largest crop at the least expense?

To say nothing of the gaseous and earthy elements necessary to make good firm wheat straw, we now take over 12,000,000 bushels of the raw material of wheat bread from our fields every year, and never stop to inquire whether this system of culture will or will not rob our wheat lands of all their bread-bearing elements. Not one particle in a thousand of the elements of bread, after entering human mouths, ever finds its way back again to the field from whence it was taken. If we are certain that the benevolent Author of our being will create *anew*, an-

nually, 12,000,000 bushels of those particular ingredients which make the amount of wheat, and will keep good all the elements of straw not returned after the harvest, then perhaps our fields may not suffer from continuous cropping without renovation. But heaven will not create one particle of matter for our especial benefit, though the two and a half millions of people in New York shall waste the raw material of 50,000,000 bushels of grain every year, until they shall have no more to waste.

To prevent farther loss, and regain all the fertilizing elements taken from our cultivated lands since their first settlement, are objects of great public importance. Man is indebted to agricultural science for the invaluable discovery that not far from 97 per cent of all the elements of cultivated plants exist in the air in exhaustless quantities. These are carbon, nitrogen, oxygen and hydrogen, the two latter forming water. The combustion of wood and coal, the respiration of all animals, fermentation and the decomposition of all organic matter throw into the atmosphere a vast amount of the ingredients necessary for the re-construction of vegetables and animals. To say nothing of water and its elements, which play an important part in all organic structures, *carbon* is the largest and most expensive element in the production of plants and domestic animals. It is the basis of vegetable mould—"the fat of the land"—and, combined with the constituents of water, forms veritable fat and butter. It is some consolation to know that there are no less than seven tons of pure carbon diffused through the air over every acre of land, whether barren or fertile, upon the habitable globe.

The earthy part of the wheat plant forming less than three per cent of its solid substance, consists of silica, (flint,) lime, potash, soda, magnesia, alumina, (the basis of clay,) chlorine, sulphur, phosphorus, and a trace of iron. All these minerals are indispensable to the production of one good wheat plant. Hence, if a farmer had an abundance of all other elements in his field to grow forty bushels of wheat on an acre, and it should be destitute of phosphorus, that defect would be fatal to the crop. There is good reason to believe that if a practical wheat grower will restore to his fields every year all the raw material of that bread-bearing plant, a large crop can be harvested from the same soil year after year, as well as to let it lie idle, or to cultivate other grain for three or four years and then grow wheat again. Persons unacquainted with the very compound nature of wheat are apt to imagine that the application of *one* fertilizing element, lime for instance, ought to suffice to produce a good crop. They are ignorant of the fact that every kernel and stem of wheat has twelve other indispensible ingredients in its composition. Millions of days of hard labor are annually thrown away in New York alone, in a vain attempt to transmute one mineral into another. Our farmers are searching for some strange philosopher's stone that will change lime into potash, potash into magnesia, magnesia into flint, flint into clay, clay into sulphur, sulphur into iron, iron into phosphorus, phosphorus into nitrogen, nitrogen into carbon and carbon into oxygen. When a man can make the half of a thing equal to the whole, then he may raise a good crop of wheat where the soil lacks one-half of the elements of that grain.

Your committee believe it practicable to increase the annual products of our present rural industry 33⅓ per cent without the aid of one dollar of additional capital; that is, they believe that full one-third of all agricultural labor is literally thrown away by its misapplication. The uniform laws of nature will not vary nor accommodate the needless ignorance of man. Hence it follows that man must apply his labor in strict conformity to the unerring laws that govern the changes of matter, or toil on through life giving two days' work for those necessaries and comforts, which an understanding of the laws of nature would have secured to him in exchange for one day's work.—The whole doctrine of eternal hard work and penurious living as the best means of acquiring wealth or the comforts of life, your committee deem unsound. The inevitable effect of this popular system is to degrade and brutify, rather than to elevate our race. Mere muscular labor, mere mechanical power, no matter how great its force, without adequate knowledge to guide and direct it, is far more likely to act wrong than right, for the simple reason that there are *five wrong ways* to do almost every thing, where there is *one right way*.

All men have intellectual organs that require development and peculiar nourishment, not less than stomachs need daily food. Has not the Creator of man manifested his approbation of human efforts to acquire wisdom, even worldly wisdom, by making the *ignorant* in all climes, and in all ages of the world, the *servants* of the *wise*?

A knowledge of the arts of plowing, sowing and reaping may do for the purpose of wearing out a productive farm, but something more is necessary to enable its owner to give back annually to each of his cultivated fields the precise elements removed by the harvest, and that too at the least possible expense.

Suppose a farmer now cultivates six acres of land in wheat, to harvest 11 bushels, how is he to manage so as to grow 133 bushels at the same expense? If he can raise 33¼ bushels per acre on four acres, that will give him the amount desired and save the whole cost of cultivating two acres of land. This saving may be set down at $8 per acre, which will give $16 surplus to be expended in purchasing the raw material to produce the extra 66 bushels of wheat on the four acres to be cultivated by a new process. As about 94 per cent of ripe wheat plants consist of carbon and water, charcoal must be an important element in fertilizing the soil. Of the other 6 per cent about one-half is nitrogen, and the other moiety is made up of silica, potash, soda, magnesia, alumna, phosphorus, sulphur, chlorine, and a trace of iron. Let the wheat grower take 100 bushels of charcoal, grind it fine in a bark mill or pulverize it well with flails on a thrashing floor, and add thereto five bushels of ground plaster. This would not cost in most farming districts in this State over $7, and if the coal and gypsum be placed in a vat or large tub and saturated with the urine of cattle, or partly moistened with the liquid excretions of the human species, and have five bushels of leached ashes mixed with the mass, it will contain all the elements of 133 bushels of good wheat. In case the urine can not be had, the addition of four bushels of salt will give all the soda and chlorine that is needed, while the ashes will furnish all the potash, silica and magnesia required. The plaster will yield the sulphur and lime, and a bushel of bone dust will give the phosphorus. A little copperas will supply the necessary iron, and the charcoal will not only yield carbon, but it will also absorb ammonia, always found in rain water when it comes from the clouds.

All these constituents of wheat can be best applied to the soil before sowing the seed; but a top dressing of a compound of coal, plaster, ashes and salt, moistened with whatever urine can be collected, may be applied to winter or spring wheat in April or May, with signal benefit to the crop. Deep ploughing and thorough draining are important aids in wheat culture, for reasons which your committee will not stop to explain.

The liberal use of freshly burned lime is very beneficial by the way of correcting any acidity of soil; and also by absorbing carbonic acid from the air, to be given up to the roots of plants, and thereby promote their growth. A pint of human urine contains ammonia enough to supply a bushel of wheat with all the nitrogen it needs. And it is worthy of remark that wheat well supplied with nitrogen in ammonia, will contain from ten to twenty per cent more gluten than it would if it lacked that element, while the wheat that abounds in gluten will make from seven to fifteen per cent more good bread than the same quantity of flour composed almost entirely of starch. In Flanders farmers pay forty shillings, or nearly ten dollars a year for the urine of a single cow for that length of time, to be used in the culture of wheat and other crops. Common sense would seem to teach every agriculturist that he should restore to his fields every particle of the liquid and solid excretions of all animals that feed upon his crops.

A little study of the science of animal physiology would convince every practical farmer that not far from one-third of all the grass, hay, roots, and grain that enters the mouths of his domestic animals is needlessly lost, owing to some removable defect in their organic structure. Less than one half of the solid matter taken into their stomachs is voided by the bowels and kidney. On an average, more than three-fourths of all the carbon that exists in all the food of respiratory animals escapes through the lungs. The action of these important organs, which never ceases night or day, governs the elaboration of muscle, fat, milk, and wool, in such domestic animals as are kept for their strength, as the horse and ox: their milk, as the cow; their flesh and fat, as the pig; and their wool, as the sheep.

Your committee do not feel at liberty, inviting as is the subject, to extend this report so far as to explain the means and process by which the organic structure of our six millions of sheep, two millions of neat cattle, and as many swine, can be greatly improved. The loss in one winter by the throwing away of animal heat in this State alone, which heat, be it known, is generated, not by burning cheap firewood or coal, but by the combustion of the carbon in hay, grain, and roots, or of fat in the animal, is not less than four millions of dollars. A man that eats half a pound of beef, two pounds of potatoes, and half a pound of bread, will expel with moderate exercise, carbon enough from his lungs in 24 hours to heat 270 pounds of water from 32 degrees up to blood heat. A knowledge of physiology would be of great practical service to our rural population by teaching them how to avoid many of the exciting causes of disease and protracted suffering.

Your committee respectfully suggest that the Legislature might authorize the State Agricultural Society to employ a practical and scientific farmer to give public lectures throughout the State upon practical and scientific husbandry, at no higher compensation to be drawn from the State Treasury than the pay of a member of this House, to the great benefit of the Agricultural interest of the State. Having visited every rural district and learned the condition of the soil, and in a good degree the precise wants of its cultivators, such person, if otherwise competent, could compile a work admirably adapted to all the peculiar circumstances of our farmers, which might be placed in all our school district libraries, at the expense of the fund of such libraries. A work on practical and scientific husbandry, embracing all the discoveries and improvements recently made in this most important branch of productive industry, and carried home to the fireside of every practical farmer, could not fail of being eminently serviceable to the community at large.

In the opinion of your committee, practical science, to be truly useful, should be carried home to the understanding of every mind which controls a pair of laboring hands, that those hands may work at all times to the best advantage. The knowledge of the few, no matter how profound, can never compensate for the ignorance of the many. There are moral considerations, which might be urged with great propriety in favor of agricultural and mechanical schools, and public lectures upon the natural sciences, inseperably blended with the every day operations of life; but your committee may well leave them to the good sense of the House.

All of which is respectfully submitted.

DANIEL LEE, JAMES GROOM,
JOHN JAMISON, JOHN L. COLE,
WARNER ABBOTT, *Com. on Agriculture.*

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From the New England Farmer.

## Experiments in Soaking Seed Corn in Muriate of Ammonia.

Some time last May, I accidentally saw a notice of some mode of preparing seed for planting, invented in Germany, which was said to insure good crops, even upon poor and barren land, at a very trifling cost. What the preparation was, the discoverer refused to make known.—While thinking over the various substances that had been or might be used with advantage, it occurred to me that Muriate of Ammonia, the common Sal Ammoniac of the druggists, might answer well for the purpose required, both from the nature of its base and its acid; and I determined to try the experiment of using it.

I accordingly dissolved a small piece, weighing by estimate 4 or 5 grains, in about half a coffee cup of water. Into this a small handful of good sound corn was thrown, and suffered to remain 4 or 5 hours, and then planted.—By the side of each hill, at a proper distance, was planted another hill with corn from the same ear, but unsoaked.—Generally in each spot only one hill of each kind was planted; but in one place a hill of the soaked corn was placed on each side of the unsoaked. The particulars and results were as follows, viz:

No. 1. Planted in good light soil, into which a fair dressing of coarse long stable manure had been plowed; about 5 kernels were planted in each hill. Result:

| Soaked. | Unsoaked. |
|---|---|
| 8 ears, 6 good, 2 small. | 4 ears. |

No. 2. Three hills—2 of soaked, and between them 1 of unsoaked corn. Soil dry, sandy, and close to the edge of a path where little or no manure fell in the spreading of it. Result:

| Soaked. | Unsoaked. |
|---|---|
| a. 5 ears, 3 of them good. | 3 good ears. |
| b. 5 " 3 " " | |

No. 3. Two hills—in a dry sandy bed, occupied for a dozen years by gooseberry bushes, which were rooted up about 2 years before. During all that time, the ground had never been manured, otherwise than that a dressing of rotton chips had several times been put about the bushes, which were well trimmed and kept clear of weeds.—During the two last years, it had borne cabbages, which were watered a number of times with soap-suds and the drainings of a sink where dishes were washed. Result:

| Soaked. | Unsoaked. |
|---|---|
| 3 large good ears, and 3 abortive ears. | 3 rather poor ears. |

No. 4. Two hills—on the edge of a sandy square, reserved for several years past for squashes, which were manured in the hill, so that the place where the corn was planted, had no benefit from it, being at least four feet from the nearest hill. Result:

Soaked—3 good ears. Unsoaked—3 rather poor ears.

No. 5. Three hills—in a moister piece of ground, into which a light dressing of coarse stable manure had been dug with a spade, but just under the edge of the boughs of some large honey locusts, the roots of which filled the ground, and exhausted the soil so, that I have found it difficult to make any thing valuable grow there but early bush beans. Result:

Soaked—4 good ears. Unsoaked—3 poor ears.

The land where all the four first experiments were tried, was light and dry, and suffered considerably from drought about the time the ears were forming. Potatoes for early use, in the immediate vicinity, were completely stopped in their growth about the last of July, the hills being perfectly dry to the bottom, and not getting fairly moist again for a period of three weeks. Owing to this, the produce of the corn was less than it would have been with seasonable rains; but in all cases, the hills, the seed in which had been soaked, manifested a decided superiority, not only in productiveness, but in the size and vigor of the stalk and leaves; as was remarked by several of my friends, whose opinion I asked without informing them of any difference in the seed. For all the trials but the first mentioned, poor spots were taken purposely, that the effect of the soaking might be observed free from the influence of manure.

Three or four soaked kernels were also planted in a spot near the door of a shed, where sprouted cuttings of grape-vines had been several times set, and all which had perished from the united efforts of drought, barrenness and heat. Even here I obtained 3 good stalks, and 2 good ears.

SAM'L. WEBBER, M. D.

*Charlestown, N. H., Feb. 19, 1844.*

# MASSACHUSETTS EAGLE PLOW.

MANUFACTURED AND FOR SALE

## BY B. F. SMITH & CO.,

AT THE

## ROCHESTER SEED STORE AND AGRICULTURAL WAREHOUSE,

No. 4, FRONT-STREET, (NEAR BUFFALO-ST.,) SIGN OF "THE PLOW."

### Latest Trial of Plows in Massachusetts.

At Andover, Mass., the Agricultural Society held, in October last, the most lengthy, thorough, and scientific trial of Plows ever held in this country.

The following extracts are from the long, able, and minute reports of the Judging Committee on Plows, (published in pamphlet form,) where they say:

"That in consequence of the numerous claims, and of the interest manifested by the different manufacturers, they found it impossible to complete their examination, in a manner satisfactory to themselves, on the day of exhibition. It was therefore postponed until the Tuesday following, when the committee, with three others associated with them by order of the trustees, were occupied [on the second day] five hours in the trial of plows. There were ten plows presented, six of them made by Prouty & Co., four by Ruggles & Co."

"On comparison of these, on condition for which the premium was offered—viz., for the best plow, character of the work done by it, easiness of draft, workmanship, and cost of implement—being taken into consideration, your committee unanimously agreed to recommend, that the premium be awarded to the plow made by Ruggles and Co."

The following table, taken from those of the committee, shows the amount and comparative power applied, depth and width of furrow, and the number of square inches of earth turned by plows nearly corresponding in size.

The comparison shows an average saving of about NINETEEN per cent., or nearly one-fifth of the labor, in the use of the MASSACHUSETTS PLOWS, which in using would soon pay for several—to say nothing of the superior work, acknowledged superiority of casting, and workmanship:

*A dynamometer, graduated from 1 to 9, was used to indicate the power applied in the work.*

| Description of Plow. | No. of lbs. of power appli'd | Depth of f'rrow | Width of furr'w | Earth t'rn'd | Earth by 100 lbs. of pow'r | Difference of draft in favor of Ruggles & Co.'s Plows. |
|---|---|---|---|---|---|---|
| Ruggles & Co., C. | 500 | 6½ | 12 | 75 | 15 | 13½ per ct. |
| Prouty & Co., A. | 500 | 5½ | 12 | 66 | 13½ | |
| Ruggles & Co., C. | 500 | 7½ | 13 | 94 | 18 4-5 | 9¾ " " |
| Prouty & Co., A. | 550 | 7½ | 13 | 94 | 17 | |
| Ruggles&Co, Eagle | 412½ | 6 | 11 | 66 | 16 | 24 " " |
| Prouty & Co., C. | 450 | 5¾ | 10 | 58 | 13 | |
| Ruggles & Co., C. | 412½ | 6 | 12 | 72 | 17½ | 28¼ " " |
| Prouty & Co., C. | 450 | 5¾ | 10 | 58 | 13 | |

At the several Plowing Matches of the Agricultural Society, in the justly celebrated county of Worcester, since 1836, ALL the premiums (54 in number,) for the best work in the field, have been awarded to competitors using Ruggles, Nourse, and Mason's Plows.

The American Institute, at their Fair held at New York, and the Massachusetts Charitable Association, held at Boston, each awarded to Ruggles, Nourse, and Mason, MEDALS for the best and most perfect Plows; and at many Plowing Matches, Fairs, and Exhibitions in Massachusetts, and other States, diplomas and the highest premiums have been awarded for their Plows, by committees, and the universal approbation of their performances by the congregated practical performances.

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*Report of the Committee of Essex County, Massachusetts, made in the fall of 1843, on the comparative merits of Plows.*

From the examinations of this kind that have heretofore been made, we are aware of the interest felt by the different manufacturers in the doings of this Committee. We have therefore felt it to be our duty to proceed with caution, and not to adopt conclusive opinions upon imperfect evidence. We shall endeavor to state such facts as have come within our observation, with such remarks, explanatory of the same, as may seem appropriate; leaving it to those curious on the subject to compare and form their own conclusions. And in so doing, we hope they will have the fairness to take all the facts into view, and not a garbled selection, as has sometimes been done, thereby entirely misrepresenting the impressions intended to be made by the Committee.

In testing the quality of a plow, the *power* by which it is moved, the *ease* with which it is handled, and the *manner* in which it completes the work, are prominent points for consideration.

The dynamometer is the best instrument at present at command to determine the power. This can be done with a good degree of accuracy where the soil is free from stones, and the team is well disciplined, and driven in a uniform manner. But even then it is not easy to be certain within a quarter of a hundred pounds, and of course much must depend upon the judgment of the observer. Without doubt, by the application of *pullies*, a nearer approximation to accuracy could be attained; but these were not at the command of the Committee. These facts are mentioned, that too much reliance may not be placed on *power* alone—this being *one* only of the considerations to be taken into view.

Seventeen plows were presented to the attention of the Committee—seven made by Ruggles & Co., seven made by Prouty & Co., two made by Howard, and one made by Winslow. The ground on which they were tried was a grass sward, with a hard stony bottom, that had heretofore been plowed not more than six inches deep. Two pair of oxen were used, the same on all the plows, and moderately driven. The plows were regulated and held principally by their owners or agents, without any special directions from the Committee, except as to the depth of the furrow, which was required to be about seven inches. Four furrows, of ten rods in length, were turned by each plow, and the average result noted by the Committee, as appears in the following tabular statement.

| Maker. | Description. | Powr in lbs. | Dpth in inch. | Wdth in inch. | Quantity in sq. inch. | Proportion to 100 lbs. of power. |
|---|---|---|---|---|---|---|
| G. W. Winslow. | Medium size. | 552 | 6.58 | 12.33 | 81.13 | 14.70 |
| Ruggles & Co. | Eagle, No. 1. | 475 | 6.25 | 11.33 | 70.81 | 14.90 |
| Ditto. | Eagle, No. 2. | 490 | 6.62 | 12.00 | 79.44 | 16.21 |
| Prouty & Co. | Sod C. | 575 | 6.62 | 13.33 | 88.24 | 15.35 |
| Ditto. | Eagle C. 2. | 571 | 6.30 | 12.00 | 75.60 | 13.24 |
| Ruggles & Co. | Sward C. | 580 | 6.83 | 12.66 | 86.46 | 14.90 |
| Howard. | Large size. | 594 | 7 | 13.33 | 93.31 | 15.70 |
| Ditto. | Medium size. | 565 | 5.96 | 12.66 | 75.45 | 13.35 |
| Prouty & Co. | 5½ self-sh'rpng. | 566 | 6.12 | 12.33 | 75 45 | 13.33 |
| Ruggles & Co. | Sward B. | 577 | 7.12 | 13.33 | 94.90 | 16.36 |
| Prouty & Co. | Eagle C. | 575 | 6.33 | 12.33 | 78.04 | 13.57 |
| Ruggles & Co. | Sward D. | 644 | 7.16 | 14.50 | 103.83 | 16.10 |
| Prouty & Co. | No. 5½. | 590 | 6.62 | 12.33 | 81.63 | 15.69 |
| Ruggles & Co. | Eagle, No. 3. | 646 | 7.46 | 14 66 | 109.36 | 16.92 |
| Prouty & Co. | Sod A. | 615 | 7.54 | 15.00 | 113.10 | 17.90 |
| Ruggles & Co. | Eagle No. 3. | 696 | 7.41 | 16.00 | 118.56 | 16.89 |
| Prouty & Co. | Lock Coulter. | 630 | 6.66 | 14.00 | 93.24 | 14.80 |

As so much depends upon the skill of the person holding the plow, the Committee were at a loss to know what proportion of the merits of the work was to be attributed to the plow, and what to the plowman; and as there appeared, in some instances, an effort to enlarge the work beyond the natural powers of the plow, the Committee requested the competitors, each of them, to produce two plows, one of large and one of medium size, to be tried on a subsequent day. The examination of these plows took place on the 24th of October, on land favorable for the experiment, a grass sward that had been mown two years only, free from stones, with a gravelly subsoil. By the direction of the Committee, the plows were adjusted by their owners—the smaller size to turn a furrow 12 inches wide and 7 inches deep—the larger size to turn a furrow 14 inches wide and 7 inches deep. The furrows were turned of the width required, varying in depth from 6½ to 7½ inches. The plows were held by members of the Committee. The power applied by three yoke of oxen, as indicated by the dynamometer, was nearly as follows, viz.:

MEDIUM-SIZED PLOWS.

| | | |
|---|---|---|
| 1. | Winslow, of Danvers | 462 pounds. |
| 2. | Prouty & Co., of Boston, | 425 " |
| 3. | Ruggles & Co., of Worcester, | 412 " |
| 4. | Howard, of Ingham, | 412 " |

LARGE-SIZED PLOWS.

| | | |
|---|---|---|
| 1. | Winslow, | 512 " |
| 2. | Prouty & Co., Sod A, | 487 " |
| 3. | Ruggles & Co., Eagle No. 3, | 425 " |
| 4. | Howard, | 450 " |

Our attention was particularly called to the quality of the castings on the plows of Ruggles & Co.—their *finish* and *durability*. Their appearance certainly is more perfect than anything of the kind we have elsewhere seen. Their process of *chilling* the *points*, the entire edge of the share, and the *flange* or *base of the landside*, gives a permanence and durability to the work, that renders it of a decidedly superior character.

An examination of several plows that have been used, where this process had been partially applied, has completely demonstrated its great utility; and we think there can be no hazard in saying, that the value of the parts thus made is more than doubled by this process. If due attention is given to the quality of the metal used, and a proper application made of the chilling process, we doubt not that irons may be made that will last as long as other parts of the plow. If this could be done, the necessity of frequent changing of points would be avoided, which has been a great objection to the use of cast iron plows. Our attention was also called by Ruggles & Co. to another improvement introduced by them, in putting the share to the mould-board, by leaving a *cavity* on the under side of the share, to insure a perfect fit of the edges and equality of bearing on all parts. As also, an improvement in attaching the landside, so that the landside and point constitute the entire base on the landside of the plow. We also learn from Ruggles & Co., that they have, by means of machinery, introduced such uniformity in the structure of their plows, that all those of the same class, being exactly of the same form and dimensions, may be repaired, when any particular part gives way, with a facility that could not otherwise be attained.

We have endeavored to give as candid and impartial a statement of the operations and character of the different plows presented to our notice, as our limited observations of their movements would admit.

In awarding the premiums, we intend them as an expression of our opinion of the comparative merits of the particular plows that have been examined by us, and not of the general character of the plows of the different manufacturers.

We award the *first premium*, twelve dollars, to Ruggles & Co., for their improved Eagle plow.

We do not award the *second premium*, because the Committee were divided in opinion.

Respectfully submitted by

S. W. PROCTOR,
MOSES NEWELL,
ANDREW DODGE,
W. SUTTON,
ASA T. NEWHALL.
} *Committee.*

*Dec.* 1*st*, 1843.

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### FRUIT AND ORNAMENTAL TREES.

MOUNT HOPE BOTANIC GARDEN AND NURSERIES.

*South St. Paul-st., nearly opposite the Cemetery, Rochester, New-York.*

THE PROPRIETORS of the above establishment offer for sale an extensive and choice collection of Fruit and Ornamental Trees, Flowering Shrubs, Green House and Hardy Herbaceous Plants, Evergreens, Roses, Dahlias and Bulbous Roots, Raspberries, Grape Vines, Asparagus Roots, &c.

The collection of Fruits, is composed of the best kinds now cultivated in the United States, procured from the best sources at home and abroad, and have been cultivated with the utmost care *by the Proprietors themselves*, in order to ensure correctness.

The collection of Hardy and Chinese Tea, Noisette and Bourbon Roses, is exceedingly large and fine; it comprises the choicest kinds to be procured in this country or Europe.

The stock of Green House Plants is larger and finer than any ever offered before to the citizens of Western New York; it embraces a large number of new and rare plants not to be found in any establishment west of New York city.

It is the design of the proprietors to make their establishment a permanent and a useful one; every just effort will be made to merit a continuance of the confidence and patronage of the public which has, so far, been so liberally extended them, and for which they feel very grateful. One of them is now in Europe, and will return in April with a choice selection of new and rare Fruit Trees, Ornamental Trees, Shrubs, Plants, &c.

☞ A very liberal discount from catalogue prices will be made to large purchasers.

All orders accompanied with cash, will receive prompt attention. Trees and Plants will be packed in the most careful manner. Spring orders should now be forwarded without delay, so that they may be executed as soon as the ground is thawed. The public are respectfully solicited to visit and inspect the establishment. Catalogues sent *gratis* to all who apply *post-paid*.

March 1, 1844, 2m. ELLWANGER & BARRY.


E. SHEPARD, PRINTER, 20½, STATE-STREET, ROCHESTER